# NEW ASTRONOMICAL STATION ON MOUNT DUSHAK-EREKDAG. III. OBSERVATIONS OF THE roAp STAR HR 1217

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ABSTRACT. Observations of well-studied roAp star HR1217 were obtained in Strömgren v-filter in single-channel mode for testing the possibilities of the dual-channel photometer. An accuracy of the single measurement is about 2.5 mmag after moving the principal periodic components from the data. Noise level in the whole frequency domain not exceed the 1 mmag.

*Key words:* Stars: Rapidly oscillating Ap stars; Individual: HR 1217

The rapidly oscillating Ap (roAp) star HR1217=DO Eri was investigated by Kurtz et al. (1989) during multisite campaign 1986. The star has clear periodicities with a principal frequency f=2.72 mHz and a modulated amplitude.

We had observed this star on 4.10.1992 during 97 minutes for testing the possibilities of the photometer (see referred paper). Observations were carried out in single-channel mode through the 45 arcsec diaphragm and narrow band interferometric filter with FWHM=140Å centered on the $\lambda$=4110Å (Strömgren "v"-band). The data comprised continuous 10-sec integration with the occasional interruptions for sky background measurements, were binned to 40-s time intervals, corrected for coincidence counting losses, sky background, extinction trend. Air masses varies from 1.8 to 1.5. The low frequency atmospheric extinction variations have been filtered with the Butterworth low frequency filter. The resulting light curve is presented in Fig. 1.

In Fig.2 we show the amplitude Fourier-spectrum of data which reveal the presence of unresolved multiplet structure around the frequency 2.72 mHz (Kurtz et al.,1989) produced the well visible light curve modulation in the Fig.1. A least squares fitting by using a program FOUR–1 by Andronov (1994) for this data set yields the frequency 2.726 $\pm$0.009 mHz and a semiamplitude 3.56 $\pm$0.35 mmag. The small peak with the amplitude 1.37 mmag at the frequency 3.91 mHz is a periodic error caused by a telescope worm wheel drive and some defocusing of the photometer Fabri lens.

Continuous line in Fig.1 show the synthetic curve, calculated with using the values of two principal frequencies (2.653 mHz and 2.72 mHz) from six frequencies resolved in frequency spectrum of HR1217 by Kurtz et al. (1989).

After moving the principal periodic components from the data we have got an accuracy of the single measurement about 2.5 mmag.

## References

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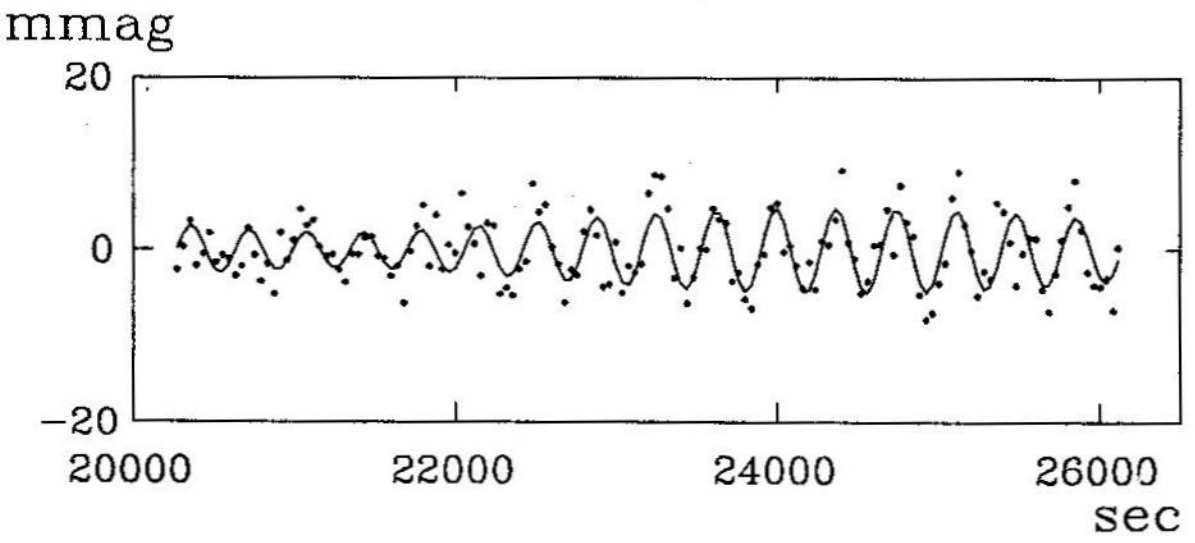


Figure 1: A light curve of the data. Continuous line shows the synthetic curve, calculated by using the values of two principal frequencies (2.653 mHz and 2.72 mHz) from Kurtz et al. (1989).

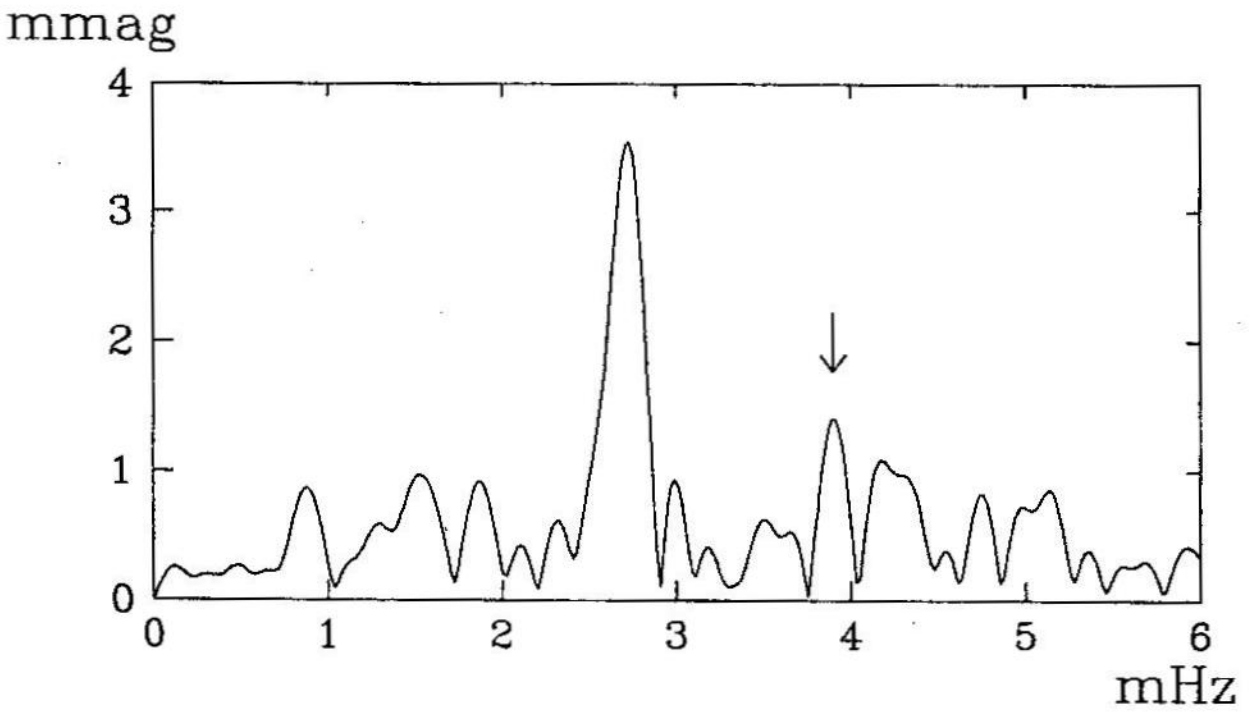


Figure 2: An amplitude Fourier-spectrum of data. A peak at a frequency 2.726 mHz with a semiamplitude 3.56 mmag is presented. An arrow shows a small peak at a frequency 3.91 mHz caused by a telescope worm wheel drive.